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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,919	08/09/2006	Francesc Ayats	102792-589-11377P4US	9000
27389 7590 01/28/2009 NORRIS, MCLAUGHLIN & MARCUS 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022			EXAMINER MALEKZADEH, SEYED MASOUD	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 01/28/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,919	Applicant(s) AYATS ET AL.	
	Examiner SEYED M. MALEKZADEH	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7-13 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7-13, 16-20 is/are rejected.
- 7) ☒ Claim(s) 1 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 1, 3, 5, 7-13, 16-20 are pending.

Claims 2, 4, 6, 14-15 are cancelled.

Claims 1 and 7 are amended.

In view of the amendment, filed on 10/22/2008, following objections/rejections are withdrawn from the previous office action, mailed on 04/22/2008, for the reason of record.

- Objection of claim 14
- Rejection of claims 1-20 under 35 U.S.C. 112, second paragraph
- Rejection of claims 1-5, 7-12, 14, 16-20 under 35 U.S.C. 102(b) as being anticipated by Zimmermann et al. (US 4,323,492)
- Rejection of claims 6 and 15 under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. ('492) in view of Famili et al. (US 5,206,278)

Following rejection is maintained for the reason of records as given in the previous office action. The basis of this rejection is the same as given in the office action mailed on 04/22/2008.

- Rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al. (US'492) in view of Famili et al. (US 5,206,278)

New Grounds of Rejection

Claim Objections

Claims 1 and 5 are objected to because of the following informalities: In amendment to claim 1, it seems that applicant has added the limitation of the previously presented claim 6 to claim 1. The previously presented claim 6 recites “wherein the temperature of material **within** an extruder is at least 40 °C”; however, in the amended claim 1, the claim recites “wherein the temperature of material **with** an extruder is at least 40° C”. Modification is suggested if the new added limitation to claim 1 if the applicant meant to merely add the limitations of previously presented claim 7 to claim 1. However, for the purpose of this examination, examiner considered the limitation as “wherein the temperature of material **within** an extruder is at least 40 °C”. Appropriate correction is required.

Furthermore, claim 5 is dependent to a cancelled claim 4 which is an improper form of claim dependency. Appropriate correction is required. For the purpose of this examination, the examiner considered claim 5 to be dependent to the independent claim 1.

Claim Rejections - 35 USC § 112, 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 5, 7-13, and 16-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites “wherein the temperature of material **with** an extruder is at least 40° C” (see lines 6-7); however, the specification recites “preferably, the temperature of material **within** the extruder is at least 40 °C” (see paragraph [0025]). Thus, the claim fails to comply with the written description requirement because the scopes of the both recitations are different and therefore, the recited limitation in claim 1 is a “**new subject matter**”.

Claim Rejections - 35 USC § 112, 2nd Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1, 3, 5, 7-13, and 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “wherein the temperature of material **with** an extruder is at least 40° C” (see lines 6-7); however, the claim fails to clearly define if the claimed subject matter is pointing to “the temperature of material inside of the extruder” or “the temperature of the extruder” or “the temperature of material inside of the extruder and the temperature of the extruder”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5, 7-12, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al. ('492) in view of Famili et al. (US 5,206,278)

Zimmermann et al. (US 4,323,492) teach a shaping process such as compression molding, extrusion, or injection molding for preparing a granular plasticizer-containing polyvinyl alcohol as pellets comprising a polyvinyl alcohol which is shown with (PVOH, PVA, or PVAL) as a thermoplastic polymer which is soluble or dispersible in the water, plasticizer which is solid in the room temperature, and water as an additive (See abstract and lines 19-24, column 4) in which all these materials in compound provide a raw material composition, wherein the process is run at a temperature above the melting point of the plasticizer and below the melting temperature of the polyvinyl alcohol as the thermoplastic polymer. (See lines 7-12, column 1; lines 65-68, column 2; and also lines 1-12, column 3)

Zimmermann et al. ('492) further teaches the amount of plasticizer to be incorporated in a raw material composition is in the range of from 5 to 50 weight %, preferably 10 to 30 weight % (relative to the polyvinyl alcohol) [See lines 55-64, column 2] in which the prior art discloses the plasticizer in the composition is at least 15%.

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Furthermore, Zimmermann et al. ('492) teach the maximum temperature does not exceed 140°C, and is perfectly in the range of from 100°C to 130°C. (See lines 7 - 12, column 3) Therefore, since the melting temperature of polyvinyl alcohol as the thermoplastic polymer in the composition is 230 °C, the prior art teaches the material during the mixing operation in the process does not exceed a temperature which is 45°C below the melting temperature of the thermoplastic polymer at any time.

Also, Zimmermann et al. ('492) teach the mixture of polyvinyl alcohol, plasticizer, and the water provide a component consisting of particles having a diameter not exceeding 300 micrometers (μm), therefore, the particle size of the raw materials used is below 2000 micrometers (μm).

Further, Zimmermann et al. ('492) also teaches the plasticizer mixed in the component is a carbohydrate selected from the group such as sorbitol, ethyleneglycol, and glycerol. (See lines 59-64, column 2)

Moreover, Zimmermann et al. ('492) disclose the granular PVAL of the invention can be molded thermo-plastically without any difficulty, for example, by compression molding, injection molding and extrusion, and it is suitable for the manufacture of any shaped articles, for example, plates, tubes, profiles, fibers and, especially, films and sheets. (See lines 19-24, column 4)

The Zimmermann et al. ('492) further, teach the temperature control during the mixing operation is very important for the process of the invention. The temperature of the mixture must be adjusted in such a manner that the

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starting PVAL particles swell and agglomerate temporarily in which the maximum temperature does not exceed 140°C and is preferably in the range of from 100°C to 130°C and further, in the cooling phase, the temperature is reduced to 40°C to 70°C. (See column 2, lines 65-68 and column 3, lines 1-9)

However, Zimmermann et al. ('492) fail to teach the temperature of the raw material within the extruder is at least 40°C, as claimed in claim 1; further, prior art fails to teach the thermoplastic polymer comprises poly(vinylpyrrolidone), poly(acrylic acid), poly(maleic acid), a cellulose derivative, poly(glycolide), poly(glycolic acid), poly(lactides), poly(lactic acid) and copolymers, as claimed in claim 13.

In the analogous art, Famili et al. (US 5,206,278) teach a method of extruding the polyvinyl alcohol composition in which the method include the steps of adding sufficient energy to the polyvinyl alcohol composition melt the polyvinyl alcohol composition and essentially eliminate the polyvinyl alcohol crystallinity in the melt, and simultaneously removing energy from the melt at a rate sufficient to avoid decomposition of the polyvinyl alcohol. (See abstract) Also, Famili et al. ('278) disclose a suitable PVOH as a thermoplastic polymer for use in preparation of the extrudable PVOH/PEO composition and thermoplastic pellets including copolymers of vinyl alcohol and methyl methacrylate consisting of 94-98 mole % vinyl alcohol and 2-6 wt % methyl methacrylate. (See lines 67-68, column 3 and lines 1-12, column 4) Moreover, prior art disclose the temperature of extrusion die for extruding different

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PVOH's compositions with different PVOH's molecular weight varies between 186°C to 207°C which is higher than at least 40 °C. (See lines 30-50; table 1)

Furthermore, Famili et al. ('278) teach about the desirable physical and mechanical properties of the thermoplastic PVOH which make it suitable for packaging applications where the contents must be dissolved or dispersed in water. Examples of such packaging applications for these PVOH materials include pesticides which are applied as a caustic cleaner or detergents which are dissolved during use. Also, Famili et al. ('278) discloses the advantages of using a water soluble film for packaging in order to improve in measuring accuracy, and eliminate the need to clean and discard toxic chemical containers after use. (See lines 39-57, column 1)

Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify the teachings of Zimmermann et al. ('492) by adjusting the temperature of the raw material within the extruder die in which the temperature to be at least 40°C and higher to decompose the vinyl alcohol polymers composition in order to remove crystallinity of the polymer and to increase the thermoplasticity of the vinyl alcohol polymers, as suggested by Famili et al ('278)

Also, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify the teachings of Zimmermann et al. ('492) by providing a thermoplastic polymer comprising a copolymer in order to

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produce a shaped article which has improved pH stability and salt solution solubility, as suggested by Famili et al. ('278)

Response to Arguments

Applicant's arguments filed 10/22/2008 have been fully considered but they are not persuasive.

In response to applicant's argument that "neither Zimmermann nor Famili specifically teach a palletizing extrusion process" (see remarks, lines 5-6), applicant's argument was not found persuasive. Applicant's attention is drawn to the point that Zimmermann et al. ('492) clearly teach a shaping process such as compression molding, **extrusion**, or injection molding for preparing **a granular plasticizer-containing polyvinyl alcohol** comprising a polyvinyl alcohol such as (PVOH, PVA, or PVAL) as a thermoplastic polymer soluble or dispersible in the water, plasticizer which is solid in the room temperature, and water as an additive. (See abstract and lines 19-24, column 4). According to Merriam-Webster online dictionary, pellet is defined as a usually small rounded, spherical, or cylindrical body (as of food or medicine). Thus, according to the definition, a granular plasticizer-containing polyvinyl alcohol also is a pellet, and Zimmermann et al. ('492) teach a pellet comprising a polyvinyl alcohol.

Moreover, applicant argues that "the prior art does not teach or suggest that the specific temperatures of the presently claimed invention can effect the

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quality and integrity of the resulting pellet. Therefore, applicant submit that a prima facie case of obviousness can not be established, and respectfully request that the examiner withdraw this rejection.” (See remarks, lines 18-20)

This is not found persuasive because applicant’s attention is drawn to the point that none of the claims actually recites the effect of the specific temperatures on quality and integrity of the resulting pellet, as applicant argues. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993) Furthermore, Zimmermann et al. (US ‘492) in view of Famili et al. (US 5,206,278) teach all the steps of an extrusion process for making pellets of thermoplastic extrudable resin, as recited above in the body of the rejection. Also, Famili et al. (US ‘278) disclose the temperature of extrusion die for extruding different PVOH’s compositions with different PVOH’s molecular weight varies between 186 °C to 207 °C which is higher than at least 40 °C. (See lines 30-50; table 1)

Therefore, claims 1, 3, 5, 7-13, 16-20 are maintained rejected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Masoud Malekzadeh whose telephone number is 571-272-6215. The examiner can normally be reached on Monday – Friday at 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (571) 272-1189. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SEYED M. MALEKZADEH/

Patent Examiner

Division 1791

/Eric Hug/

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